



CHICAGO JOURNALS

Journal of Consumer Research, Inc.

---

Motivational Compatibility and Choice Conflict

Author(s): Jonathan Levav, Ran Kivetz, and Cecile K. Cho

Reviewed work(s):

Source: *Journal of Consumer Research*, Vol. 37, No. 3 (October 2010), pp. 429-442

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/10.1086/653044>

Accessed: 06/03/2013 05:42

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at  
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).



The University of Chicago Press and *Journal of Consumer Research, Inc.* are collaborating with JSTOR to digitize, preserve and extend access to *Journal of Consumer Research*.

<http://www.jstor.org>

# Motivational Compatibility and Choice Conflict

JONATHAN LEVAV  
RAN KIVETZ  
CECILE K. CHO

For most forms of conscious consumer choice, product attributes serve as the means that consumers use to accomplish their goals. Because there is competition between products in the marketplace, consumption decisions typically present conflict between means to achieve a goal. In this article, we examine the consequences of conflict between regulatory means on consumers' decisions and show that its resolution depends on whether the means—that is, the attributes—are compatible with the consumer's regulatory orientation. We show that compatibility with more than one attribute arouses acute decision conflict and evokes decision processes that result in a pronounced tendency to make counternormative choices. We also show that incompatibility with a product's attributes leads to choosing extreme alternatives, which suggests the presence of a "pick-your-poison" effect. We test our hypotheses using the attraction, compromise, and deferral paradigms. We close by discussing our results in the context of the Lewinian view of decision conflict.

For most forms of conscious consumer choice, product attributes serve as the means that consumers use to accomplish their goals. Because there is competition between products in the marketplace, consumption decisions typically present conflict between means to achieve a goal; consumer decision making is about resolving conflict (Luce, Jia, and Fischer 2003; see also Lewin 1933, 1951; Miller 1944). For instance, in a decision between two brands, brand A might have a product that is better on attribute  $x$  but worse on  $y$ , and vice versa for brand B.

Recent consumer behavior research suggests that the choice of means is often predicated on the consumer's regulatory state, or her "regulatory focus," which defines the individual's motivational orientation (for a review, see Pham and Higgins [2005]). Regulatory focus theory distinguishes between two regulatory states that are associated with approach and avoidance (Higgins 1997). Promotion-focused consumers are concerned with achieving gains, accom-

plishments, and aspirations. Prevention-focused consumers are concerned with avoiding losses, fulfilling obligations, and maintaining safety. Strategies or means that involve ensuring "hits" or successes are compatible with a promotion focus; strategies that help avoid negative outcomes and ensure correct rejection of alternatives are compatible with a prevention focus (Higgins 2000). For instance, brand A's excellent reliability but middling aesthetic quality might be more appealing to a prevention-focused individual than brand B's excellent aesthetic quality and middling reliability (which might be more appealing to a promotion-focused individual). In this example, reliability is a prevention attribute because it serves as a means to avoid negative utility, and aesthetic quality is a promotion attribute because it serves as a means to achieve positive utility. Thus, viewed through the lens of self-regulation, the resulting conflict that attribute trade-offs evoke is really a conflict between the means to achieve a goal.

How do consumers resolve conflict between means in product choice? In this article, we study the consequences of conflict between regulatory means on consumers' decisions and show that its resolution depends on whether the means—in this case, the attributes—are compatible with the consumer's regulatory (i.e., motivational) orientation. In particular, we examine choices between products that are characterized by multiple attributes that are compatible with a regulatory goal and that must be traded off in order to make a selection. Here, conflict arises because of consumers' tendency to afford greater weight to such "motivationally compatible" attributes (Chernev 2004; Higgins 2002). Although this weighting process simplifies choice when a single attribute matches one's motivational orientation, we sug-

---

Jonathan Levav (jl2351@columbia.edu) is the Class of 1967 Associate Professor of Business and Ran Kivetz (rk566@columbia.edu) is the Philip H. Geier, Jr., Professor of Business at the Graduate School of Business, Columbia University, New York, NY 10027. Cecile K. Cho is assistant professor of marketing at the Anderson School of Management at the University of California, Riverside, CA 92521 (cecile.cho@ucr.edu). Please send correspondence to Jonathan Levav, 509 Uris Hall, 3022 Broadway, New York, NY 10027, or via e-mail. The authors wish to acknowledge Tory Higgins, Angela Lee, Oded Netzer, Michel Pham, and the review team for their helpful comments.

*John Deighton served as editor and Jennifer Aaker served as associate editor for this article.*

*Electronically published April 22, 2010*

gest that it will actually increase conflict when more than one of the attributes is a match (Chernev 2004). Furthermore, the increased conflict is amplified because a match between a regulatory state and a regulatory means should increase engagement, which in turn further heightens the attractiveness of both the chosen and the forgone options (Higgins 2006; Higgins et al. 2003). Such conflict, like any other conflict inherent in making decisions that require trade-offs between attributes, should lead choosers to seek reasons or contextual cues that justify choosing a particular alternative (and hence resolve the dilemma), even if reliance on these reasons will result in counternormative behavior (Shafir, Simonson, and Tversky 1993). Therefore, we hypothesize that when multiple attributes and options are compatible with decision makers' regulatory orientation, they will tend to use decision processes that result in a greater degree of counternormative choices (hereafter, the "compatibility hypothesis").

To test the effect of competing compatible means—that is, compatibility with more than one attribute—we use three paradigms from consumer decision research: compromise, attraction, and deferral. A compromise effect (Simonson 1989) refers to the shift in choice probability of an option when it is presented as a middle option rather than as an extreme option. An attraction effect (also "asymmetric dominance") refers to the result of adding an alternative to an existing two-alternative choice set such that the new alternative is dominated by one alternative in the set but not by the other (Huber, Payne, and Puto 1982). Even though it is dominated—and therefore normatively irrelevant—the new, "decoy" alternative increases the probability of choice of the alternative that dominates it. Both the compromise and attraction effects are more likely to occur when consumers are uncertain of their subjective valuation of the available choice options and therefore experience choice conflict. The presence of the contextual cue provides decision makers with a reason to choose a particular alternative, thus solving the conflict inherent in making choices from multiple alternatives (Amir and Levav 2008; Simonson and Tversky 1992). Thus, preferences are often "context dependent." A third way in which consumers can resolve decision conflict is by simply deferring their choice (Dhar 1997; Shafir et al. 1993). In our experiments, we test the effect of compatibility on the compromise and attraction effects, as well as on choice deferral. We predict that compromise, attraction, and choice deferral will be greater in regulatory compatibility than in regulatory incompatibility conditions.

At first blush, our prediction that people in the compatibility conditions will rely on contextual cues appears to contradict research on how a match between a person's regulatory state and an available goal-fulfillment means leads to more systematic, motivated processing (Aaker and Lee 2001; Idson, Liberman, and Higgins 2000). In fact, our prediction follows from this research directly. Specifically, using think-aloud protocols, Simonson (1989) shows that greater decision conflict leads to greater context dependence and that people who make context-dependent choices are

more likely to process options more deeply. This is evident in their longer decision times, greater likelihood to consider the pros and cons of each option, and greater likelihood to mention a difficult decision experience. In other words, the enhanced motivation and systematic thinking that theoretically results from compatibility should lead to greater context dependence (see also Dhar, Nowlis, and Sherman 2000; Dhar and Simonson 2003).

Compromise, attraction, and deferral experiments typically present respondents with alternatives that are described as identical on all dimensions except for two attributes (for an exception, see Kivetz, Netzer, and Srinivasan [2004]). Each alternative is thus described by a two-attribute combination, and a choice between the alternatives requires the respondent to trade off a high value along one attribute in exchange for a high value along another. In our experiments, we evoke compatibility between regulatory orientation and (the attributes of) a choice alternative by priming participants with a prevention or a promotion regulatory orientation and manipulating whether the alternative's attributes are prevention or promotion means. For instance, we describe a laptop along the dimensions of weight and warranty (prevention attributes) or speed and memory (promotion attributes).

What happens when the product's attributes and the consumer's regulatory focus are incompatible? Here the relatively diminished engagement may reduce the intensity of the conflict experienced by participants relative to the compatibility conditions (Higgins 2006), which might in turn diminish the use of contextual cues and therefore result in weaker compromise and asymmetric dominance effects. However, the reduction in conflict does not necessarily imply that we expect participants to be indifferent between the choice options. Indeed, conflict still exists, but we argue that it evokes different decision strategies than in the case of motivational compatibility and hence leads us to a more nuanced prediction that is distinct for compromise and asymmetric dominance.

In particular, we assume that attributes that are incompatible with the decision maker's motivational orientation are relatively unattractive from a regulatory point of view. By compromising where attributes do not match, participants accept a moderate level of two relatively unattractive attributes, or two moderate "losses." In contrast, by choosing an extreme option—that is, an option that is strong along one of the attributes and weak along the other—participants accept a large "loss" on the first attribute and a large "non-loss" on the second attribute. The steeper curvature near the origin of prospect theory's value function implies that the disutility from two moderate losses is typically greater than the disutility from a single large loss (Kahneman and Tversky 1979). We conjecture that in cases of incompatibility this property will lead participants to choose either one of the extreme options, a phenomenon that we label the "pick-your-poison" effect. The pick-your-poison effect will not be evident in the case of asymmetric dominance because both the asymmetrically dominating option and the other option

in the set are associated with an equally large loss along one of the attributes. Here, participants will simply show little or no tendency to shift their choices toward the asymmetrically dominating alternative.

## OVERVIEW OF EXPERIMENTS

We present the results from four experiments, using 17 different categories of goods and services. The first three experiments examine the rates of compromise (experiments 1 and 1a) and attraction (experiment 2) when there is motivational compatibility compared with motivational incompatibility between the decision maker's primed regulatory focus and the (two) attributes of the choice alternatives. The data show that the attraction and compromise effects are stronger in the compatibility than in the incompatibility conditions; we also show a pick-your-poison effect in the incompatibility condition of the compromise studies. In experiment 3, we test whether the desire to defer choice increases when there is a match between the primed regulatory state and the attributes of the choice options, and we also explicitly measure decision conflict. We find that choice deferral is greater in the compatibility conditions and that participants' reported experience of conflict and decision difficulty is indeed greater in the compatibility condition than in the incompatibility condition. In experiment 4, we extend our treatment to conflict between attributes that are compatible (or incompatible) with the motivations that underlie regulatory states—namely, approach (e.g., number of sunny days; more is better) and avoidance (e.g., number of rainy days; more is worse). Analogous to situations where conflict is due to regulatory means, here too we find pronounced compromise in approach-approach conflicts and a pick-your-poison effect in avoidance-avoidance conflicts.

## EXPERIMENT 1

In our first experiment, we test the hypothesis that compatibility between a respondent's regulatory goal orientation and the attributes of the alternatives in a choice set will generate a more pronounced tendency to choose the compromise alternative in the set. We tested this hypothesis across eight decision categories. Here and in all subsequent experiments, we primed regulatory focus by using the Pham and Avnet (2004) procedure that asks participants to list two examples of either their hopes and ideals or their oughts and obligations. These constructs map onto promotion and prevention, respectively (Higgins et al. 1994). The attributes that were used here and in the next experiments to describe the options in each category were classified by us as promotion attributes or prevention attributes based on the definitions of eagerness/promotion and vigilance/prevention strategies as described in Higgins et al. (2003). In order to confirm that the attributes were classified correctly, we conducted a postexperimental manipulation check wherein for each attribute participants were asked to rate the extent to which that attribute "help[s] you achieve a desired outcome" and the extent to which that attribute "help[s] you avoid a

negative consequence." We expected that the attributes we had classified as promotion means would rate higher on the achieve question than on the avoid question, and vice versa for attributes that we had classified as prevention means. As we elaborate in the results section, we also analyze the data by using participants' own ratings.

## Method

Two hundred undergraduate and graduate student respondents received \$7 for their participation in the study. Respondents were randomly assigned to one of 12 conditions, in a 2 (regulatory focus prime: promotion vs. prevention)  $\times$  2 (attribute type: promotion vs. prevention)  $\times$  3 (three trinary choice sets) between-participants design. Detecting compromise entails comparing the relative choice probability of alternative *b* over alternative *c* in choice set  $\{a, b, c\}$  (i.e.,  $P(b, c|a)$ ) with the relative choice probability of *b* over *c* in choice set  $\{b, c, d\}$  (i.e.,  $P(b, c|d)$ ; see Simonson 1989). This requires two trinary choice sets. We added a third set in order to also compare the relative choice probability of *c* over *d* in set  $\{b, c, d\}$  with the relative choice probability of *c* over *d* in set  $\{c, d, e\}$ . Thus, our design enabled us to conduct two compromise effect tests for each regulatory prime in each decision category.

Following the priming task, participants were asked to imagine that they were in the market for each of the following categories (presented in succession): apartments, laptops, fitness centers, digital camcorders, hotels, frequent flier programs, credit cards, and cell phone plans (see table 1 for stimuli). For each category, participants were offered three options, described by two attributes, with one of the options representing a compromise relative to the two others in the set. Participants were told that the options differed only in terms of the two attributes mentioned and that they were equal in every other sense. Midway through the experiment, they were asked to write down two more ideals or oughts in order to reinforce the priming manipulation. In order to properly counterbalance the cells, the design was such that participants were asked to make six compatibility (incompatibility) choices and two incompatibility (compatibility) choices. Following the choice task, people indicated their achieve and avoid ratings for each attribute.

## Results

To analyze the data, we compared the choices of participants in the compatibility conditions with the choices of participants in the incompatibility conditions for promotion and prevention focus separately. In other words, participants in a promotion (prevention) prime condition who had been asked to choose among options described by promotion (prevention) attributes were compared with prevention (promotion) prime condition participants who had been asked to choose among the same promotion (prevention) options. We computed the magnitude of the compromise effect for the compatibility and incompatibility conditions separately and then calculated the difference between these two mag-

TABLE 1  
EXPERIMENT 1 STIMULI

Decision category	Attribute 1 (type)	Attribute 2 (type)
Cell phone plan	Roaming charge per minute (prevention) Anytime minutes (promotion)	Per-minute cost beyond anytime minutes (prevention) Free text messages (promotion)
Credit card	Average hold time for customer service representative (prevention) Number of online merchants toward which the reward points can be used (promotion)	Deductible in case of lost or stolen goods (prevention) Reward miles toward your favorite airlines upon joining (promotion)
Frequent flier program	Blackout days per year (prevention) Number of airline partners the reward miles can be used toward (promotion)	Months until miles expire (prevention) Miles needed for a one-way domestic upgrade (promotion)
Hotel package	Cancellation/change fee (prevention) View from your room (1–5 stars; promotion)	Noise level from the street in dBA (prevention) Hotel food rating (1 = excellent, 10 = poor; promotion)
Camcorder	Weight in ounces (prevention) Picture quality in megapixels (promotion)	Battery life in minutes (prevention) Optical zoom (promotion)
Fitness club	Average wait time for machines in minutes (prevention) Variety of workout machines (1 = low variety, 10 = high variety; promotion)	Driving distance to the fitness club in miles (prevention) Number of workout classes offered (promotion)
Laptop	Weight in pounds (prevention) Speed in GHz (promotion)	Warranty in years (prevention) RAM memory (promotion)
Apartment	Walking distance from library in minutes (prevention) View from window (1 = poor, 10 = excellent; promotion)	Noise level from the street in dBA (prevention) Size in square feet (promotion)

nitudes by subtracting the incompatibility magnitude from the compatibility magnitude (for more details on this calculation, see the appendix). A positive difference indicated greater compromise in the compatibility condition than in the incompatibility condition, confirming our compatibility hypothesis. Note that our design enabled us to examine the direction of the difference twice for each decision category (for a total of 32 tests: 8 categories  $\times$  2 regulatory states  $\times$  2 tests of compromise) because we could test the compromise effect by using the share of option *b* relative to option *c*, as well as by using the share of option *c* relative to option *d*. We found a positive difference in the magnitude of the compromise effect between the compatibility and incompatibility conditions—reflecting greater context dependence in the compatibility condition than in the incompatibility condition—in 21 of the 32 possible comparisons (see table 2 for results). A Wilcoxon signed-ranks test revealed that this pattern of differences was significant ( $p < .005$ ; see Siegel and Castellan [1988] for details on calculating this test). For example, the magnitude of the compromise effect was greater for the camcorder category when prevention-primed participants were presented with cameras described along the prevention attributes of weight and battery life (11.1%) than when promotion-primed participants were presented with the same attributes (–31.4%). When participants were promotion primed, the compromise effect was greater when the camcorders were described along the promotion dimensions of picture quality and optical zoom (50.0%) than when prevention-primed participants were presented with the same attributes (13.3%).

It is noteworthy that the categories that did not fully display the predicted data pattern (hotel package, fitness club, and apartment) included attributes that our manipulation

check indicates had been misclassified by us as promotion or prevention. In the fitness category, for instance, the attribute “number of workout classes” was intended as a promotion attribute but was considered by participants to be a prevention attribute (its mean “achieve” rating was 3.1, and its mean “avoid” rating was 3.3). It is also noteworthy that the magnitude of the 21 hypothesis-supporting comparisons was much greater than the magnitude of the 11 hypothesis-disconfirming comparisons (see col. 5 in table 2); the mean absolute difference is greater for positive differences (44%; median = 43%) than for negative differences (16%; median = 11%).

Although our classification of attributes was largely consistent with our participants’ ratings, we conducted an internal analysis of the data in which we reclassified individuals into conditions based on their own responses to the manipulation check. To this end, for each participant we calculated the sum of the achieve scores for each of the two attributes of the products in a category and compared it with the sum of the avoid scores for the attributes of the same products. Where the sum of the achieve scores was greater, we labeled the products (and their attributes) “promotion”; where the sum of the avoid scores was greater, we labeled the products “prevention.” Ties were excluded from the analysis. By comparing their scores to their priming task, we were able to reclassify participants into compatibility and incompatibility conditions. Because we collapsed across regulatory focus prime, for the eight categories in this study we calculated 16 compromise effects (instead of 32). The results of this analysis confirmed the conclusion drawn from the previous analysis and again supported the hypothesized multiple attribute compatibility effect. As can be seen in table 3, the compromise effect was greater in the compat-



TABLE 2  
EXPERIMENT 1 RESULTS

Decision category (compromise test)	Prime	Compatibility (%)	Incompatibility (%)	Difference	Compatibility > incompatibility?
Cell phone plan:					
$P(b, c a) - P(b, c d)$	Prevention	51.8	-81.8	133.6	Yes
$P(b, c a) - P(b, c d)$	Promotion	16.2	-32.1	48.3	Yes
$P(c, d b) - P(c, d e)$	Prevention	-3.8	-57.8	54.0	Yes
$P(c, d b) - P(c, d e)$	Promotion	25.7	-20.2	46.0	Yes
Credit card:					
$P(b, c a) - P(b, c d)$	Prevention	9.3	-8.1	17.4	Yes
$P(b, c a) - P(b, c d)$	Promotion	31.9	-41.3	73.2	Yes
$P(c, d b) - P(c, d e)$	Prevention	11.4	-40.7	52.1	Yes
$P(c, d b) - P(c, d e)$	Promotion	32.4	-14.3	46.7	Yes
Frequent flier program:					
$P(b, c a) - P(b, c d)$	Prevention	37.3	-17.0	54.3	Yes
$P(b, c a) - P(b, c d)$	Promotion	10.4	6.3	4.2	Yes
$P(c, d b) - P(c, d e)$	Prevention	42.0	27.8	14.2	Yes
$P(c, d b) - P(c, d e)$	Promotion	11.7	-12.9	24.5	Yes
Hotel package:					
$P(b, c a) - P(b, c d)$	Prevention	2.0	24.7	-22.7	No
$P(b, c a) - P(b, c d)$	Promotion	30.3	29.2	1.0	Yes
$P(c, d b) - P(c, d e)$	Prevention	20.8	26.5	-5.6	No
$P(c, d b) - P(c, d e)$	Promotion	2.5	25.0	-22.5	No
Camcorder:					
$P(b, c a) - P(b, c d)$	Prevention	11.1	-31.4	42.5	Yes
$P(b, c a) - P(b, c d)$	Promotion	50.0	13.3	36.7	Yes
$P(c, d b) - P(c, d e)$	Prevention	33.0	-59.6	92.6	Yes
$P(c, d b) - P(c, d e)$	Promotion	27.8	38.5	-10.7	No
Fitness club:					
$P(b, c a) - P(b, c d)$	Prevention	-40.9	21.4	-62.3	No
$P(b, c a) - P(b, c d)$	Promotion	15.2	-7.1	22.3	Yes
$P(c, d b) - P(c, d e)$	Prevention	-35.0	-32.3	-4.6	No
$P(c, d b) - P(c, d e)$	Promotion	22.8	27.4	-2.7	No
Laptop:					
$P(b, c a) - P(b, c d)$	Prevention	44.6	5.1	39.5	Yes
$P(b, c a) - P(b, c d)$	Promotion	40.0	2.8	37.2	Yes
$P(c, d b) - P(c, d e)$	Prevention	40.0	12.5	27.5	Yes
$P(c, d b) - P(c, d e)$	Promotion	-1.6	24.5	-26.2	No
Apartment:					
$P(b, c a) - P(b, c d)$	Prevention	20.5	36.4	-4.8	No
$P(b, c a) - P(b, c d)$	Promotion	26.4	31.2	-15.9	No
$P(c, d b) - P(c, d e)$	Prevention	43.6	-2.4	46.0	Yes
$P(c, d b) - P(c, d e)$	Promotion	31.3	32.9	-1.6	No

NOTE.—The first column lists the decision category; for each category we tested the compromise effect using the choice share of  $b$  relative to  $c$  in sets  $\{a, b, c\}$  and  $\{b, c, d\}$  (i.e.,  $P(b, c|a) - P(b, c|d)$ ), as well as the choice share of  $c$  relative to  $d$  in sets  $\{b, c, d\}$  and  $\{c, d, e\}$  (i.e.,  $P(c, d|b) - P(c, d|e)$ ). The second column lists the primed regulatory orientation, and the third and fourth columns list the magnitude of the compromise effect when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The fifth column is the difference between the magnitude of the compromise effect in the compatibility and incompatibility conditions; according to our compatibility hypothesis, this difference should be positive. The sixth column indicates whether this difference is positive.

ibility than the incompatibility condition for 12 of the 16 comparisons, as reflected in the positive difference between the magnitude of the compromise effects in the compatibility and incompatibility conditions (see col. 4). A Wilcoxon signed-ranks test revealed that this pattern of differences was significant ( $p < .05$ ).

Finally, in order to test for the presence of a pick-your-poison effect, we counted the number of negative effects in the compatibility and incompatibility conditions. Recall that a negative effect signifies that an option became more attractive as an extreme relative to its placement as a middle option (see the appendix for details on how this is calcu-

lated). The pick-your-poison effect stipulates that there will be greater extremeness seeking in the incompatibility than in the compatibility condition. We find 15 of 32 instances of extremeness seeking in the incompatibility condition, compared with only four of 32 in the compatibility condition ( $\chi^2 = 9.06, p < .01$ ). We obtained a similar pattern by using the reclassified data that used participants' own ratings of achieve and avoid (eight of 16 vs. two of 16, respectively;  $\chi^2 = 5.24, p < .03$ ). These results indicate that the tendency to pick one's poison was greater in the incompatibility conditions than in the compatibility conditions. It is noteworthy that random choice (i.e., guessing) would lead neither to com-

**TABLE 3**  
EXPERIMENT 1 INTERNAL ANALYSIS RESULTS

Decision category (compromise test)	Compatibility (%)	Incompatibility (%)	Difference	Compatibility > incompatibility?
Cell phone plan:				
$P(b, c a) - P(b, c d)$	56.0	14.0	42.0	Yes
$P(c, d b) - P(c, d e)$	23.0	-16.0	39.0	Yes
Credit card:				
$P(b, c a) - P(b, c d)$	28.0	-30.0	58.0	Yes
$P(c, d b) - P(c, d e)$	-2.0	-21.0	19.0	Yes
Frequent flier program:				
$P(b, c a) - P(b, c d)$	6.1	.0	6.1	Yes
$P(c, d b) - P(c, d e)$	15.4	25.5	-10.1	No
Hotel package:				
$P(b, c a) - P(b, c d)$	21.0	-6.0	27.0	Yes
$P(c, d b) - P(c, d e)$	17.0	2.0	15.0	Yes
Camcorder:				
$P(b, c a) - P(b, c d)$	11.0	-12.0	23.0	No
$P(c, d b) - P(c, d e)$	12.0	-11.0	23.0	Yes
Fitness club:				
$P(b, c a) - P(b, c d)$	-8.0	-18.0	10.0	Yes
$P(c, d b) - P(c, d e)$	3.0	9.0	-6.0	No
Laptop:				
$P(b, c a) - P(b, c d)$	24.0	19.0	5.0	Yes
$P(c, d b) - P(c, d e)$	8.0	36.0	-28.0	No
Apartment:				
$P(b, c a) - P(b, c d)$	33.0	-2.0	35.0	Yes
$P(c, d b) - P(c, d e)$	16.0	6.0	10.0	Yes

NOTE.—The first column lists the decision category; for each category we tested the compromise effect using the choice share of  $b$  relative to  $c$  in sets  $\{a, b, c\}$  and  $\{b, c, d\}$  (i.e.,  $P(b, c|a) - P(b, c|d)$ ), as well as the choice share of  $c$  relative to  $d$  in sets  $\{b, c, d\}$  and  $\{c, d, e\}$  (i.e.,  $P(c, d|b) - P(c, d|e)$ ). The second and third columns list the magnitude of the compromise effect when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The fourth column is the difference between the magnitude of the compromise effect in the compatibility and incompatibility conditions; according to our compatibility hypothesis, this difference should be positive. The fifth column indicates whether this difference is positive.

promise (positive effect) nor to extremeness seeking (negative effect), but rather to no shifts in choice shares (zero effect).

## EXPERIMENT 1A

In experiment 1, we established that compatibility between a respondent's regulatory state and the attributes of a product lead to greater context dependence in choice. We argue that this conflict occurs because goal-congruent attributes are afforded greater psychological weight, and this greater weight begets heightened conflict. The question arises, what happens in a situation where only one of the attributes that characterizes a product is compatible with the consumer's regulatory orientation, and how would such a situation compare with our compatibility and incompatibility conditions in experiment 1?

Using an online panel ( $N = 489$ ), we replicated the cell phone, credit card, and frequent flyer items from the previous study but also added a condition where only one of the attributes was compatible with the primed regulatory state ("partial compatibility condition"), and the other attribute was incompatible. We expected to find a ranking of effects such that the compatibility condition would replicate our pronounced compromise effect, the incompatibility con-

dition would replicate our pick-your-poison effect, and the partial compatibility condition would fall between these two. The logic for this prediction is rooted in the way in which the compromise effect is computed as the choice share advantage attained by an option that is a middle alternative relative to an adjacent, extreme option. In particular, in the compatibility condition we expect that when an option becomes a middle alternative, it will draw choice share from both extremes, yielding a very positive effect. In the incompatibility condition, both extremes will gain choice share relative to the middle, yielding a highly negative effect, reflecting the fact that both extremes are equally "poisonous" and that people can pick either one. In the partial compatibility condition, the middle option has neither a systematic advantage nor a systematic disadvantage. Imagine that middle option  $b$  in the choice set  $\{a, b, c\}$  possesses an advantage over extreme option  $c$  along the compatibility dimension. When  $c$  becomes the middle option and  $b$  the extreme in set  $\{b, c, d\}$ , both will gain choice share since both are better along the compatibility dimension (relative to option  $d$ ). The degree of share gain will depend on the extent of the attribute's compatibility and the consumer's utility from that attribute (and from compatibility in general). As a result, the effect of partial compatibility is in-

determinate and in expectation should fall between the effects of the compatibility and incompatibility conditions.

In addition to their choices, we also assessed participants' self-reported engagement in each of the choice tasks, using a 1–7 scale developed by Lee, Keller, and Sternthal (2010). We expected engagement to be highest in the compatibility condition (Higgins 2006).

## Results

Our analysis here was identical to the analysis presented in experiment 1, with the minor caveat that this time we simply computed the overall effect size for each condition in each decision category (rather than examine each potential comparison as before). This yielded six possible comparisons (3 decision categories  $\times$  2 primes). We compared the magnitude of the compromise effect for each of the three compatibility conditions. Five of the six comparisons revealed the expected ranking of effect sizes (a sixth comparison was only partially supportive): compromise was greatest in the compatibility condition, followed by the partial compatibility condition, which was followed by a pronounced negative effect in the incompatibility condition (see table 4). A Friedman test revealed that the consistency of the pattern of ranks was statistically significant ( $p < .01$ ; see Siegel and Castellan [1988] for details on the Friedman test). In addition, in five of the six comparisons, engagement was higher in the compatibility condition than in either the incompatibility or partial compatibility condition (see cols. 5–7). This suggests that conflict in the compatibility condition may be heightened because of regulatory engagement. Interestingly, engagement also tended to be higher in the incompatibility condition than in the partial compatibility condition. We speculate that this is a reflection of the fact that the incompatibility situations led to some feeling of conflict in a way that the easier-to-resolve partial compatibility situations did not, and that this feeling led to some increased engagement, a possibility alluded to by Scholer and Higgins (2009) and Lee (2009). Indeed, we speculate

that the pick-your-poison effect may actually be a consequence of our participants being (at least somewhat) engaged by incompatibility (Lee 2009).

## EXPERIMENT 2

In experiment 2, we test our motivational compatibility hypothesis by using the attraction effect paradigm. Here too, we expected greater context-dependent choice in conditions where the respondent's primed regulatory goal orientation is compatible with the regulatory mode of the attributes used to describe the choice options. In other words, we expected that the magnitude of the increase in choice probability of a target option when presented alongside an asymmetrically dominated decoy option (relative to when there is no decoy) would be greater in the compatibility conditions than in the incompatibility conditions.

## Method

One hundred and eighty-seven participants were recruited on campus and received \$7 for their participation. They were randomly assigned to one of eight conditions in a 2 (regulatory focus prime: promotion vs. prevention)  $\times$  2 (attribute type: promotion vs. prevention)  $\times$  2 (binary vs. trinary choice set) between-participants design. We manipulated regulatory compatibility by priming a regulatory goal orientation and matching it with products whose attributes were either compatible or incompatible with the primed orientation. We used seven product categories: vacation packages, humidifiers, laptops, graduate programs, credit cards, cars, and vacuum cleaners. Participants were asked to imagine that the options presented to them differed only in terms of the two attributes mentioned and that they were equal in all other respects. As in experiment 1, in order to properly counterbalance the cells, the design was such that participants were asked to make a mix of compatibility and incompatibility choices. Midway through the experiment, participants repeated the priming task. Table 5 presents the

TABLE 4

EXPERIMENT 1A RESULTS

Decision category	Effect size (%)			Compatibility > partial > incompatibility?	Engagement rating		
	Compatibility	Partial	Incompatibility		Compatibility	Partial	Incompatibility
Cell phone plan:							
Prevention prime	43	–18	–23	Yes	3.70	3.25	3.53
Promotion prime	24	–6	–29	Yes	3.74	3.28	3.71
Credit card:							
Prevention prime	11	13	–17	Not quite	3.85	3.26	3.60
Promotion prime	13	–8	–41	Yes	3.78	3.64	3.62
Frequent flier program:							
Prevention prime	9	–13	–51	Yes	3.29	3.77	3.31
Promotion prime	10	3	–39	Yes	3.96	3.45	3.65

NOTE.—The first column lists the decision category. The next three columns list the magnitude of the compromise effect for each condition. The fifth column indicates whether the ranking of effect sizes conforms to our prediction ("yes" indicates this to be the case). The sixth, seventh, and eighth columns are the average engagement ratings in each condition.



TABLE 5  
EXPERIMENT 2 STIMULI

Decision category	Attribute 1 (type)	Attribute 2 (type)
Prague vacation package	Number of flight stopovers each way (prevention)	Type of travel insurance included in package (prevention)
Humidifier	Hotel rating in stars (promotion)	Complimentary benefits included (promotion)
	Ease of cleaning (1 = very easy, 10 = very difficult; prevention)	Number of filter replacements necessary per month (prevention)
Laptop	Tank capacity in gallons (promotion)	Special features (promotion)
	Weight in pounds (prevention)	Technical support service wait time in minutes (prevention)
	Speed (promotion)	Memory (promotion)
Graduate school	Required classes and exams (prevention)	Unemployed at graduation (prevention)
	Faculty-to-student ratio (promotion)	Graduates with job offers upon graduation (promotion)
Credit card	Average telephone hold time for customer service representative (prevention)	Security features (prevention)
	Number of redemption partners (promotion)	Reward points per dollar spent (promotion)
Car	Fuel economy (prevention)	Bumper-to-bumper warranty (prevention)
	Seat comfort (max = 100; promotion)	Power (promotion)
Vacuum	Noise level (prevention)	Malfunction rate within first year (prevention)
	Suction power (promotion)	Options (promotion)

stimuli used in this study. Finally, as in experiment 1, at the end of the study all participants were asked to provide achieve and avoid ratings for each attribute that they had been asked to consider.

## Results

Once again, we analyzed the data by comparing the choices of participants in the compatibility and incompatibility conditions for the promotion- and prevention-prime conditions separately. For each condition, we assessed the magnitude of the attraction effect by calculating the difference in a target option's relative choice share when it appeared in a binary choice set versus its relative share when it was presented alongside an asymmetrically dominated decoy alternative in a trinary choice set (cf. Huber et al. 1982). Next we computed the difference between the magnitude of this attraction effect in the compatibility and incompatibility conditions (for each regulatory-prime condition); a positive difference signified that the attraction effect was greater in the compatibility conditions than in the incompatibility conditions, thus supporting our hypothesis. As each of the seven decision categories yielded two differences (one for each of the regulatory primes), we computed 14 differences. The results support the prediction that compatibility between the primed regulatory focus and both product attributes leads to a stronger attraction effect: attraction was greater in the compatibility condition for 13 of the 14 comparisons, a significant pattern (Wilcoxon signed-ranks test,  $p < .0001$ ; see table 6 for results).

As an example, consider the Prague vacation package category. In this instance, the attraction effect equaled 16.7% when prevention-primed participants were presented with vacation packages described along the (prevention) dimensions of the number of flight stopovers and the type of travel insurance included in the package, but the effect was only 3.6% when promotion-primed participants were presented

with the same prevention attributes. Likewise, when participants were promotion primed, attraction was greater (22.1%) when the vacation packages were described along the (promotion) dimensions of complimentary services and hotel star rating than when prevention-primed participants were presented with the same attributes ( $-4.9\%$ ). It is noteworthy that the comparison that was in the opposite direction to what we had predicted (vacuum for prevention prime) was also the only category where our manipulation-check data show that the attributes used did not conform to their a priori classification as promotion or prevention attributes.

Using the same procedure as in experiment 1, here too we reclassified participants into conditions according to their own ratings of achieve and avoid and recomputed the magnitude of the attraction effect in these newly created compatibility and incompatibility conditions (collapsing across regulatory prime). We then computed the difference in the magnitudes for each regulatory prime in each category as before. Table 7 presents the results of this analysis. In six of seven categories, the attraction effect was greater in the compatibility than in the incompatibility condition (one category was a tie), a significant pattern (Wilcoxon signed-ranks test,  $p < .05$ ).

## EXPERIMENT 3

Experiments 1 and 2 present evidence consistent with the view that compatibility leads to a tendency to make counter-normative choices when more than one means is available to fulfill a regulatory goal orientation. Based on previous research that links context dependence with choice conflict, we have conjectured that this tendency is a result of the heightened dilemma experienced by our respondents in the compatibility conditions relative to the incompatibility conditions. In experiment 3, we test this conjecture by using a choice deferral paradigm. Participants are presented with two alternatives to choose from and then are asked to in-

**TABLE 6**  
EXPERIMENT 2 RESULTS

Decision category	Compatibility (%)	Incompatibility (%)	Difference	Compatibility > incompatibility?
Prague vacation:				
Prevention prime	16.7	3.6	13.1	Yes
Promotion prime	22.1	-4.9	27.0	Yes
Humidifier:				
Prevention prime	8.7	2.7	6.1	Yes
Promotion prime	5.2	-6.9	12.1	Yes
Laptop:				
Prevention prime	14.4	4.5	9.9	Yes
Promotion prime	11.2	-2.5	13.7	Yes
Graduate school:				
Prevention prime	-5.2	-12.9	7.7	Yes
Promotion prime	17.9	-6.0	23.8	Yes
Credit card:				
Prevention prime	13.6	8.1	5.5	Yes
Promotion prime	20.4	13.7	6.7	Yes
Car:				
Prevention prime	13.0	8.0	5.0	Yes
Promotion prime	44.0	20.3	23.6	Yes
Vacuum:				
Prevention prime	14.6	16.9	-2.3	No
Promotion prime	45.6	33.3	12.2	Yes

NOTE.—The first column lists the decision category and the primed regulatory orientation. The second and third columns list the magnitude of the attraction effect when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The fourth column is the difference between the magnitude of the attraction effect in the compatibility and incompatibility conditions; according to our compatibility hypothesis, this difference should be positive. The fifth column indicates whether this difference is positive.

dicate the extent to which they prefer to defer their choice to another time. Deferral should be greatest among those respondents who are experiencing greater conflict deciding between the options (Dhar 1997; Shafir and Tversky 1992). Participants were also asked to rate the difficulty of the choice; like the deferral ratings, these difficulty ratings were expected to be higher in the compatibility conditions than in the incompatibility conditions.

## Method

Ninety-seven undergraduate and graduate student participants were recruited on campus and were paid \$7 in return for their participation. They were randomly assigned to one of four conditions in a 2 (regulatory focus prime: promotion vs. prevention)  $\times$  2 (attribute type: promotion vs. prevention) between-participants design. We presented respondents

**TABLE 7**  
EXPERIMENT 2 INTERNAL ANALYSIS RESULTS

Decision category	Compatibility (%)	Incompatibility (%)	Difference	Compatibility > incompatibility?
Prague vacation	18.1	4.9	13.2	Yes
Humidifier	7.7	-7.8	15.5	Yes
Laptop	12.8	-1.4	14.3	Yes
Graduate school	17.7	3.3	14.3	Yes
Credit card	16.1	16.1	0.0	. . .
Car	25.6	10.9	14.7	Yes
Vacuum	28.3	21.7	6.6	Yes

NOTE.—The first column lists the decision category. The second and third columns list the magnitude of the attraction effect when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The fourth column is the difference between the magnitude of the attraction effect in the compatibility and incompatibility conditions; according to our compatibility hypothesis, this difference should be positive. The fifth column indicates whether this difference is positive.

with two choice options in each of eight product categories: laptops, vacation packages, humidifiers, apartments, vacuum cleaners, cars, credit cards, and restaurants. The options' two attributes were negatively correlated so that if option *x* was strong on attribute *a*, it was weak on attribute *b*, and vice versa for option *y*. For each category, we asked participants (1) to rate their preference to delay the choice and instead continue to search for more information about the options and (2) to rate the difficulty of the choice in the event that they were forced to choose among the two options. All ratings were done on 7-point scales. As in the previous studies, participants repeated the priming task midway through the choice task.

## Results

We analyzed the data by comparing the ratings of delay and difficulty in the compatibility and incompatibility conditions for promotion- and prevention-primed participants separately. Since we tested eight categories, there were 16 possible comparisons for delay and for difficulty. The results supported our prediction: participants in the compatibility conditions showed a greater preference to delay and reported greater choice difficulty than did participants in the incompatibility conditions (see table 8). Mean deferral ratings were

greater in the compatibility conditions than in the incompatibility conditions for 15 of the 16 possible comparisons, and mean difficulty ratings were greater in the compatibility conditions for all 16 comparisons ( $p < .0001$  by Wilcoxon signed-ranks tests for each dependent variable). For example, for the car category, the mean for "prefer to delay" was significantly higher when promotion-primed participants were presented with cars described by the promotion dimensions of power and seat comfort ( $M = 4.9$ ) than when prevention-primed participants were presented with the same cars and attributes ( $M = 3.4$ ). Similarly, the mean delay rating of prevention-primed participants presented with cars described along the prevention dimensions of fuel economy and warranty ( $M = 5.3$ ) was significantly greater than the mean rating by promotion-primed participants presented with the same cars and attributes ( $M = 2.4$ ). The results support the conjecture that when more than one means is available to sustain a regulatory goal orientation, decision conflict increases; this conflict, we have argued and shown in experiments 1, 1a, and 2, enhances the propensity to rely on contextual decision cues.

## EXPERIMENT 4

The compatibility and incompatibility decision conflicts that we present to participants in experiments 1–3 are the

**TABLE 8**  
EXPERIMENT 3 RESULTS

Decision category	Delay rating			Difficulty rating		
	Compatibility	Incompatibility	Compatibility > incompatibility?	Compatibility	Incompatibility	Compatibility > incompatibility?
Laptop:						
Prevention prime	5.32	4.88	Yes	3.68	3.16	Yes
Promotion prime	4.7	3.79	Yes	3.67	2.79	Yes
Vacation package:						
Prevention prime	3.54	4.04	No	3.58	2.28	Yes
Promotion prime	4.17	3.12	Yes	3.96	2.33	Yes
Humidifier:						
Prevention prime	5.64	3.17	Yes	4.44	2.71	Yes
Promotion prime	4.12	3.50	Yes	3.54	3.08	Yes
Apartment:						
Prevention prime	4.96	3.36	Yes	4.67	3.08	Yes
Promotion prime	4.50	2.88	Yes	4.42	2.54	Yes
Vacuum:						
Prevention prime	3.42	2.51	Yes	3.96	2.92	Yes
Promotion prime	3.96	3.41	Yes	3.54	3.20	Yes
Car:						
Prevention prime	5.29	2.39	Yes	4.67	3.04	Yes
Promotion prime	4.92	3.38	Yes	4.13	3.17	Yes
Credit card:						
Prevention prime	4.76	3.96	Yes	3.64	3.00	Yes
Promotion prime	4.88	3.00	Yes	4.13	2.33	Yes
Restaurant:						
Prevention prime	3.83	2.96	Yes	4.54	2.16	Yes
Promotion prime	4.58	2.80	Yes	3.50	2.88	Yes

NOTE.—The first column lists the decision category and the primed regulatory orientation. The second and third columns list the average delay rating when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The fourth column indicates whether the delay rating is greater in the compatibility rather than the incompatibility condition; according to our hypothesis, this should be true. The fifth and sixth columns list the average difficulty rating when the attributes of the option set were compatible and incompatible, respectively, with the primed orientation. The seventh column indicates whether this was true, as we had hypothesized.

TABLE 9  
EXPERIMENT 4 STIMULI AND RESULTS

Decision category	Attribute 1 (type)	Attribute 2 (type)	Effect (%)	Approach > avoidance?
7-day vacation	Days with good weather (approach)	Percentage of positive reviews (approach)	49	Yes
	Days with bad weather (avoidance)	Percentage of negative reviews (avoidance)	33	
Medical treatment decision	Weekly number of nights with uninterrupted, energizing sleep (approach)	Weekly number of days capable of an invigorating run (approach)	-14	Yes
	Weekly number of sleepless nights (avoidance)	Weekly number of painful injections (avoidance)	-45	
Credit card	Friendliness of customer service rating (approach)	Identity protection ranking in percentile (approach)	-20	Yes
	Rudeness of customer service rating (avoidance)	Percentage of customers who experience identity theft (avoidance)	-31	
Graduate program	Percentage of graduates with job offers upon graduation (approach)	Percentage of tuition defrayed by financial aid (approach)	14	No
	Percentage of graduates without job offers upon graduation (avoidance)	Percentage of tuition paid out of pocket (avoidance)	21	
Apartment	Brightness (approach)	Quiet (approach)	39	Yes
	Darkness (avoidance)	Noise (avoidance)	30	
Health insurance	Percentage reimbursement (approach)	Proportion of in-network doctors (approach)	5	Yes
	Percentage out-of-pocket costs (avoidance)	Proportion of out-of-network doctors (avoidance)	-4	
Snack	Milligrams of HDL (good) cholesterol (approach)	Percentage fat free (approach)	6	Yes
	Milligrams of LDL (bad) cholesterol (avoidance)	Percentage fat (avoidance)	-3	

NOTE.—The first column lists the decision category. The second and third columns list the attributes (the attribute type, approach or avoidance, appears in parentheses). The magnitude of the compromise effect for the options characterized by the attributes listed in that row is listed in the fourth column. The fifth column indicates whether the compromise effect in the approach condition is greater than in the avoidance condition, as we hypothesize, for the given decision category.

self-regulation analogues of what Lewin (1933, 1951) and Miller (1944) describe as approach-approach and avoidance-avoidance conflicts, respectively. In the compatibility conditions, participants face a self-regulatory approach-approach conflict because both attributes match the regulatory state and are therefore relatively attractive; in the incompatibility condition, participants face a self-regulatory avoidance-avoidance conflict because neither attribute matches the regulatory state and, therefore, both attributes are relatively unattractive. The current study extends our treatment to a common type of conflict whose origin is in the antecedent of self-regulation—namely, the simple hedonic principle of approaching pleasure and avoiding pain (Higgins 2000). Compatibility and incompatibility here are not with regard to self-regulatory goals but rather to the basic omnipresent motivations of approach and avoidance. We use the compromise effect paradigm in order to test both our compatibility hypothesis and our pick-your-poison effect. We predict that compromise will be greater in the approach-approach conflicts than in the avoidance-avoidance conflicts; in the latter, we expected to find a tendency to shift toward the extreme option (i.e., a pick-your-poison effect).

## Method

One hundred and sixteen undergraduates participated in this study in exchange for a chance to win \$50 and were

randomly assigned to a 2 (attribute type: approach vs. avoidance)  $\times$  3 (three trinary choice sets) between-participants design. We presented respondents with seven decision categories: vacation, medical decision, graduate program, credit card, apartment, snack, and health insurance plan. Each category was described by two attributes that were either unambiguously good (i.e., approach) or unambiguously bad (i.e., avoidance). Where possible, the attribute descriptions were designed to be complements of each other. For instance, a vacation was described in terms of its number of good weather days out of 7 (approach; e.g., 3 days of good weather) versus its number of bad weather days out of 7 (avoidance; e.g., 4 days of bad weather) and its percentage of traveler reviews that are positive (approach; e.g., 35%) versus its percentage of traveler reviews that are negative (avoidance; e.g., 65%). Table 9 presents the stimuli for this experiment.

## Results

The results supported our predictions. The compromise effect was greater in the approach-approach condition than in the avoidance-avoidance condition for six of the seven categories tested (Wilcoxon signed-ranks test,  $p = .03$ ; see the last two columns of table 9 for results). The tendency to seek extremes was greater in the avoidance-avoidance

condition, where we find a negative effect in four items compared with only two negative effects in the approach-avoidance condition. Thus, our compatibility hypothesis is supported for motivational conflicts of approach and avoidance, in addition to regulatory conflicts.

## GENERAL DISCUSSION

A consumer's product choice is often based on an assessment of the compatibility between the product and the consumer's goals. In this article, we examine the consequences of compatibility of product attributes with regulatory goals and focus on cases where a product offers more than one means to achieve a goal. We show that in such situations of compatibility with multiple means, decision makers experience conflict with regard to which means to favor and consequently resort to choice strategies that lead them to make counternormative choices and increase their tendency to defer their decisions.

We used the attraction, compromise, and deferral paradigms to study the effect of compatibility with multiple means. In experiment 1, we show that compatibility between a primed regulatory orientation and the attributes that characterize the choice options induces a pronounced tendency to choose a compromise alternative relative to a condition in which the primed orientation and the attributes are incompatible. Furthermore, we find evidence consistent with a pick-your-poison effect, whereby when participants are faced with a product characterized by two incompatible attributes, they are more likely to select a more extreme alternative. Experiment 1a replicates experiment 1, but also compares the effect of compatibility or incompatibility with multiple attributes with the effect of compatibility with a single attribute. In experiment 2, we show that a similar effect of compatibility leads respondents to shift their choices toward an option that asymmetrically dominates a third, normatively irrelevant option. Experiment 3 documents the effect of compatibility on the tendency to defer decisions. Participants in the compatibility conditions were more likely to defer their choice and to also rate the decision as more difficult than participants in the incompatibility conditions were. Experiment 4 extends our treatment of conflict between regulatory means to simple hedonic conflicts of approach and avoidance. We use a compromise effect paradigm and replicate both our compatibility and pick-your-poison effects.

A possible alternative explanation for our results is that compatibility evokes heightened attention to the product attributes and values that our participants saw. By this view, the increased attention facilitates comparisons between the attributes. Since many of the attributes of the products in our stimuli are beyond most consumers' everyday experiences, perhaps the compromise choice is actually the "best" choice. Although on its face this alternative seems reasonable, it does not explain the pattern of results that we obtain. First, we find a greater desire to delay choice in the compatibility conditions in study 3. Delay is a function of conflict, not attention; indeed, greater attention would predict

less delay, not more. Second, in experiment 4, all participants were presumably equally attentive and were mostly processing the same attributes. Third, we find pick-your-poison effects—not random choice—in the incompatibility conditions where, presumably, attention was not enhanced. Lack of attention would have led to random choice.

The pick-your-poison effect should not be confused with the polarization effect documented by Simonson and Tversky (1992). Polarization refers to situations where extremeness aversion applies to one, but not both, attributes; it typically occurs when consumers are faced with a trade-off where only one of the attributes is significantly more prominent (e.g., quality vs. price or safety vs. price trade-offs). In contrast, the pick-your-poison effect is not the result of an asymmetric extremeness aversion or attribute prominence. Instead, it is a consequence of people avoiding two moderate losses that are sustained if one accepts a compromise option when the options possess two unattractive ("poisonous") attributes. Therefore, the pick-your-poison effect actually reflects extremeness seeking toward one of the attributes. Thus, the underlying causes of the polarization and pick-your-poison effects are different. Note that this is the first article in which the valence of attributes is varied systematically, making possible the detection of the pick-your-poison effect.

The intensified conflict experienced by participants in our compatibility conditions should amplify their natural tendency to rely on the contextual cues that are congruent with their regulatory focus. More specifically, Murali, Bockenholt, and Laroche (2007) show that promotion-focused decision makers, because of their desire to achieve hits and ensure advancement, are more likely to resolve decision conflict by relying on the dominance cue available in an attraction context. In contrast, the authors find that prevention-focused participants, because of their desire to avoid mistakes and maintain a safe course of action, are more likely to be drawn to compromise options that allow them to avoid risky extremes. The decision conflict experienced by participants in the Murali et al. (2007) studies should be magnified in our compatibility conditions. Thus, their findings imply that in our own data we should observe a greater difference between the magnitude of the attraction effect in the compatibility versus incompatibility conditions for promotion-primed participants than the corresponding difference for prevention-primed participants. This was the case for seven of the seven decision categories we tested. In contrast, we should observe the opposite in our compromise data: the difference in the propensity to make the compromise choice between the compatibility and incompatibility conditions should be greater for prevention-primed participants than for promotion-primed participants. We observe this in 11 of the 16 possible comparisons.

One of the most interesting features of our findings is that they appear to contradict the classic treatments of conflict by Kurt Lewin (1933, 1951; see also Miller 1944) that have provided the backbone for much of the consumer behavior research on decision conflict (Luce et al. 2003). Lewin char-



acterizes conflict as situations where competing approach and/or avoidance forces act in concert and determine whether a person chooses quickly or vacillates between the options. Avoidance-avoidance conflicts are ones where both options repel an individual. As a result, he vacillates between the two options because as he nears one option, its repellent forces become stronger and he tends toward the other option. This leads to slow conflict resolution. In contrast, approach-approach conflicts are resolved easily because as soon as the individual tends in the direction of one of the options, that option becomes dominant. Choices in such circumstances should be quick (Arkoff 1957) and satisfying (Houston, Sherman, and Baker 1991).

As we suggest in the introduction to experiment 4, the compatibility and incompatibility conditions in experiments 1–3 could be viewed as the self-regulation analogues of approach-approach and avoidance-avoidance conflicts, respectively (in experiment 4, we create actual approach and avoidance conflicts). Lewin (1933) and Miller's (1944) theory on conflict implies that in our studies we should expect a decrease in context dependence in the compatibility conditions relative to the incompatibility conditions. So why does our compatibility condition turn people into context-dependent choosers rather than happy, quick decision makers as predicted by Lewin and Miller? We speculate that the reason for this relates to the type of trade-offs that our participants have to make. In particular, our stimuli are characterized by a built-in negative correlation between the attributes: any improvement on one attribute requires a sacrifice along another. The reliance on the contextual cue—the compromise option or the asymmetrically dominated decoy option—functions as a tie-breaking mechanism that is an alternative to making trade-offs to arrive at a choice. Likewise, in the deferral study, delaying choice enables respondents to avoid experiencing further conflict. In contrast, in Lewin and Miller's approach-approach conflicts, the options do not possess negatively correlated attributes; rather, they are “non-comparables,” each consisting of its own unique (uncorrelated) set of attributes (Johnson 1984). Although we do not test the above speculation explicitly, we believe that our results represent an extension to the Lewinian view of conflict. This issue merits deeper inquiry.

Another noteworthy feature of our findings concerns the relationship of our work to regulatory fit. Regulatory fit is a metacognitive state of “feeling right” that occurs when there is congruence between a regulatory goal orientation and a means to achieve the goal. Typically, fit studies prime a regulatory orientation and pair it with a single set of means (or a single option) to achieve a goal. So, for example, a person in promotion focus is asked to circle certain words on a sheet of paper (rather than cross them out). Numerous studies have presented evidence pointing to the positive consequences of fit, including enhancement of value, greater enjoyment from a task, and greater persuasion (for a review, see Avnet and Higgins 2006; Higgins 2005; Labroo and Lee 2006; Lee and Aaker 2004); fit creates a halo effect (Higgins et al. 2003). Although we do not assess fit in our studies,

it is tempting to speculate about whether the greater conflict that compatibility-condition participants experienced indicates that when more than one mean fits a goal people might actually “feel wrong” rather than “feel right.” Our results suggest that the consequences of multiple competing means fitting the same regulatory orientation may be different from the consequences of classic regulatory fit. Alternatively, perhaps what our compatibility condition participants experience is “regulatory relevance,” a source of fit (Aaker and Lee 2006) wherein decision makers assign different levels of importance to an option depending on its relevance to their regulatory orientation (Avnet and Higgins 2006). Regulatory relevance is not necessarily associated with the “feeling right” that is characteristic of regulatory fit. This raises the question of what would be the pattern of context dependence in a situation where people actually did “feel right.” We leave these issues to future research.

Products often avail people with multiple attributes that can serve as means to fulfill their regulatory goals. When a single means dominates others, consumers' decisions are easy because the choice of product is driven by the dominating attribute (Chernev 2004). Choosing becomes complicated when competition between means is created because multiple attributes can be equally compatible with a regulatory goal. To illustrate, consider the fable of Buridan's hungry donkey, which is presented with a choice between two equally large, equally tasty bales of hay. Uncertain of which bale to eat—they would both quell its hunger pangs—it dies of starvation. Similarly, the conflict engendered by the competition between means in market settings can lead to a greater dependence on contextual cues to make a choice and can result in counternormative decision making and decision deferral. Having compatibility between goals and means is good, but having a lot of it—like having too much of a good thing—can turn us into Buridan's asses. Although counternormative choice may be preferable to death by indecision, it is an outcome that laypeople typically prefer to avoid.

## APPENDIX

Imagine that option *b* (the middle option) was selected 10 times and option *c* (an extreme option) was selected five times in set  $\{a, b, c\}$ , whereas *b* (now an extreme option) was selected four times and *c* (now the middle option) was selected 10 times in set  $\{b, c, d\}$ . The magnitude of the compromise effect would be calculated as follows:  $[10/(10 + 5)] - [4/(4 + 10)] = .38$ . This number can be negative if, instead of a shift away from *b* to *c*, people tend to select *b* more often when it is an extreme option. Using similar numbers, imagine now that *b* (the middle option) was selected four times and *c*, the extreme option, was selected 10 times in set  $\{a, b, c\}$ , but that *b* (now an extreme option) was selected 10 times and *c* (now the middle option) was selected five times in set  $\{b, c, d\}$ . The magnitude of the compromise effect would be  $[4/(4 + 10)] - [10/(10 + 5)] = -.38$ , representing extremeness seeking.

## REFERENCES

- Aaker, Jennifer L. and Angela Y. Lee (2001), "'I' Seek Pleasures and 'We' Avoid Pains: The Role of Self-Regulatory Goals in Information Processing and Persuasion," *Journal of Consumer Research*, 28 (1), 33–49.
- (2006), "Understanding Regulatory Fit," *Journal of Marketing Research*, 43, 15–19.
- Amir, On and Jonathan Levav (2008), "Choice Construction versus Preference Construction: The Instability of Preferences Learned in Context," *Journal of Marketing Research*, 45, 145–58.
- Arkoff, Abe (1957), "Resolution of Approach-Avoidance and Avoidance-Avoidance Conflicts," *Journal of Abnormal and Social Psychology*, 55, 402–4.
- Avnet, Tamar and E. Tory Higgins (2006), "How Regulatory Fit Affects Value in Consumer Choices and Opinions," *Journal of Marketing Research*, 43, 1–10.
- Chernev, Alexander (2004), "Goal-Attribute Compatibility in Consumer Choice," *Journal of Consumer Psychology*, 14, 141–50.
- Dhar, Ravi (1997), "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, 24 (2), 215–31.
- Dhar, Ravi, Stephen M. Nowlis, and Steven J. Sherman (2000), "Trying Hard or Hardly Trying: An Analysis of Context Effects in Choice," *Journal of Consumer Psychology*, 9, 189–200.
- Dhar, Ravi and Itamar Simonson (2003), "The Effect of Forced Choice on Choice," *Journal of Marketing Research*, 40, 146–60.
- Higgins, E. Tory (1997), "Beyond Pleasure and Pain," *American Psychologist*, 52, 1280–1300.
- (2000), "Making a Good Decision: Value from Fit," *American Psychologist*, 55, 1217–30.
- (2002), "How Self-Regulation Creates Distinct Values: The Case of Promotion and Prevention Decision Making," *Journal of Consumer Psychology*, 12, 177–91.
- (2005), "Value from Regulatory Fit," *Current Directions in Psychological Science*, 14, 209–13.
- (2006), "Value from Hedonic Experience and Engagement," *Psychological Review*, 113, 439–60.
- Higgins, E. Tory, Lorraine C. Idson, Antonio L. Freitas, Scott Spiegel, and Daniel C. Molden (2003), "Transfer of Value from Fit," *Journal of Personality and Social Psychology*, 84, 1140–53.
- Higgins, E. Tory, Christopher J. R. Roney, Ellen Crowe, and Charles Hymes (1994), "Ideal versus Ought Predilections for Approach and Avoidance: Distinct Self-Regulatory Systems," *Journal of Personality and Social Psychology*, 66, 276–86.
- Houston, David A., Steven J. Sherman, and Sara M. Baker (1991), "Feature Matching, Unique Features, and the Dynamics of the Choice Process: Predecision Conflict and Postdecision Satisfaction," *Journal of Experimental Social Psychology*, 27, 411–30.
- Huber, Joel, John W. Payne, and Christopher Puto (1982), "Adding Asymmetrically Dominated Alternatives: Violations of Regularity and the Similarity Hypothesis," *Journal of Consumer Research*, 9 (1), 90–98.
- Idson, Lorraine Chen, Nira Liberman, and E. Tory Higgins (2000), "Distinguishing Gains from Nonlosses and Losses from Non-gains: A Regulatory Focus Perspective on Hedonic Intensity," *Journal of Experimental Social Psychology*, 36, 252–74.
- Johnson, Michael D. (1984), "Consumer Choice Strategies for Comparing Noncomparable Alternatives," *Journal of Consumer Research*, 11 (December), 741–53.
- Kahneman, Daniel and Amos Tversky (1979), "Prospect Theory: An Analysis of Decision under Risk," *Econometrica*, 47, 263–91.
- Kivetz, Ran, Oded Netzer, and V. Seenu Srinivasan (2004), "Alternative Models for Capturing the Compromise Effect," *Journal of Marketing Research*, 41, 237–57.
- Labroo, Aparna A. and Angela Y. Lee (2006), "Between Two Brands: A Goal Fluency Account of Brand Evaluation," *Journal of Marketing Research*, 43 (3), 374–85.
- Lee, Angela Y. (2009), "Engaging the Consumer: The Opposing Forces of Regulatory Nonfit versus Fit," *Journal of Consumer Psychology*, 19, 134–36.
- Lee, Angela Y. and Jennifer Aaker (2004), "Bringing the Frame into Focus: The Influence of Regulatory Fit on Processing Fluency and Persuasion," *Journal of Personality and Social Psychology*, 86, 205–18.
- Lee, Angela Y., Punam Anand Keller, and Brian Sternthal (2010), "Value from Regulatory Construal Fit: The Persuasive Impact of Fit between Consumer Goals and Message Concreteness," *Journal of Consumer Research*, 36 (5), 735–47.
- Lewin, Kurt (1933), "Environmental Forces," in *A Handbook of Child Psychology*, ed. C. Murchison, Worcester, MA: Clark University Press, 590–625.
- (1951), *Field Theory in Social Science: Selected Theoretical Papers*, Oxford: Harper.
- Luce, Mary Frances, Jianmin Jia, and Gregory F. Fischer (2003), "How Much Do You Like It? Within-Alternative Conflict and Subjective Confidence in Consumer Judgments," *Journal of Consumer Research*, 30 (3), 464–72.
- Miller, Norman E. (1944), "Experimental Studies of Conflict," in *Personality and the Behavior Disorders*, ed. J. M. Hunt, New York: Roland, 431–65.
- Mourali, Mehdi, Ulf Bockenholt, and Michel Laroche (2007), "Compromise and Attraction Effects under Prevention and Promotion Motivations," *Journal of Consumer Research*, 34 (2), 234–47.
- Pham, Michel Tuan and Tamar Avnet (2004), "Ideals and Oughts and the Reliance on Affect versus Substance in Persuasion," *Journal of Consumer Research*, 30 (4), 503–18.
- Pham, Michel Tuan and E. Tory Higgins (2005), "Promotion and Prevention in Consumer Decision Making: The State of the Art and Theoretical Propositions," in *Inside Consumption: Consumer Motives, Goals, and Desires*, ed. S. Ratneshwar and David Glen Mick, London: Routledge, 8–43.
- Scholer, Abigail A. and E. Tory Higgins (2009), "Exploring the Complexities of Value Creation: The Role of Engagement Strength," *Journal of Consumer Psychology*, 19, 137–43.
- Shafir, Eldar, Itamar Simonson, and Amos Tversky (1993), "Reason-Based Choice," *Cognition*, 49, 11–36.
- Shafir, Eldar and Amos Tversky (1992), "Choice under Conflict: The Dynamics of Deferred Decision," *Psychological Science*, 3, 358–61.
- Siegel, Sidney and N. John Castellan Jr. (1988), *Nonparametric Statistics for the Behavioral Sciences*, New York: McGraw-Hill.
- Simonson, Itamar (1989), "Choice Based on Reasons: The Case of Attraction and Compromise Effects," *Journal of Consumer Research*, 16 (2), 158–74.
- Simonson, Itamar and Amos Tversky (1992), "Choice in Context: Tradeoff Contrast and Extremeness Aversion," *Journal of Marketing Research*, 29, 281–95.